

# ACVR1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP13856C

## Product Information

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<b>Application</b>	WB, E
<b>Primary Accession</b>	<a href="#">Q04771</a>
<b>Other Accession</b>	<a href="#">P80201</a> , <a href="#">P37172</a> , <a href="#">Q28041</a> , <a href="#">NP_001104537.1</a> , <a href="#">NP_001096.1</a>
<b>Reactivity</b>	Human, Rat, Mouse
<b>Predicted</b>	Bovine, Mouse, Rat
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB33883
<b>Calculated MW</b>	57153
<b>Antigen Region</b>	132-161

## Additional Information

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<b>Gene ID</b>	90
<b>Other Names</b>	Activin receptor type-1, Activin receptor type I, ACTR-I, Activin receptor-like kinase 2, ALK-2, Serine/threonine-protein kinase receptor R1, SKR1, TGF-B superfamily receptor type I, TSR-I, ACVR1, ACVRLK2
<b>Target/Specificity</b>	This ACVR1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 132-161 amino acids from the Central region of human ACVR1.
<b>Dilution</b>	WB~~1:1000 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	ACVR1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	ACVR1
<b>Synonyms</b>	ACVRLK2

<b>Function</b>	Bone morphogenetic protein (BMP) type I receptor that is involved in a wide variety of biological processes, including bone, heart, cartilage, nervous, and reproductive system development and regulation (PubMed: <a href="#">20628059</a> , PubMed: <a href="#">22977237</a> ). As a type I receptor, forms heterotetrameric receptor complexes with the type II receptors AMHR2, ACVR2A or ACVR2B (PubMed: <a href="#">17911401</a> ). Upon binding of ligands such as BMP7 or GDF2/BMP9 to the heteromeric complexes, type II receptors transphosphorylate ACVR1 intracellular domain (PubMed: <a href="#">25354296</a> ). In turn, ACVR1 kinase domain is activated and subsequently phosphorylates SMAD1/5/8 proteins that transduce the signal (PubMed: <a href="#">9748228</a> ). In addition to its role in mediating BMP pathway-specific signaling, suppresses TGFbeta/activin pathway signaling by interfering with the binding of activin to its type II receptor (PubMed: <a href="#">17911401</a> ). Besides canonical SMAD signaling, can activate non-canonical pathways such as p38 mitogen-activated protein kinases/MAPKs (By similarity). May promote the expression of HAMP, potentially via its interaction with BMP6 (By similarity).
<b>Cellular Location</b>	Membrane; Single-pass type I membrane protein.
<b>Tissue Location</b>	Expressed in normal parenchymal cells, endothelial cells, fibroblasts and tumor-derived epithelial cells

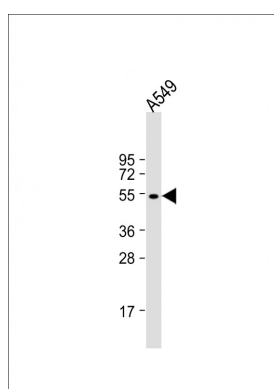
## Background

Activins are dimeric growth and differentiation factors which belong to the transforming growth factor-beta (TGF-beta) superfamily of structurally related signaling proteins. Activins signal through a heteromeric complex of receptor serine kinases which include at least two type I (I and IB) and two type II (II and IIB) receptors. These receptors are all transmembrane proteins, composed of a ligand-binding extracellular domain with cysteine-rich region, a transmembrane domain, and a cytoplasmic domain with predicted serine/threonine specificity. Type I receptors are essential for signaling; and type II receptors are required for binding ligands and for expression of type I receptors. Type I and II receptors form a stable complex after ligand binding, resulting in phosphorylation of type I receptors by type II receptors. This gene encodes activin A type I receptor which signals a particular transcriptional response in concert with activin type II receptors. Mutations in this gene are associated with fibrodysplasia ossificans progressive.

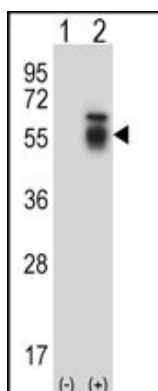
## References

Canzian, F., et al. Hum. Mol. Genet. 19(19):3873-3884(2010)  
Shimada, M., et al. Hum. Genet. 128(4):433-441(2010)  
Song, G.A., et al. J. Biol. Chem. 285(29):22542-22553(2010)  
Herrera, B., et al. Cancer Res. 69(24):9254-9262(2009)  
Jung, B., et al. PLoS ONE 4 (12), E8308 (2009) :

## Images



Anti-ACVR1 Antibody (Center) at 1:2000 dilution + A549 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 57 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of ACVR1 (arrow) using rabbit polyclonal ACVR1 Antibody (Center) (Cat. #AP13856c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the ACVR1 gene.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.